# Rajalakshmi Engineering College

Name: Ezhil Muhilan
Email: 240801075@rajalakshmi.edu.in
Roll no: 2116240801075
Phone: 9677820274
Branch: REC
Department: I ECE FA
Batch: 2028
Degree: B.E - ECE

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## NeoColab_REC_CS23231_DATA STRUCTURES

### REC_DS using C_Week 2_COD_Question 4

Attempt : 1
Total Mark : 10
Marks Obtained : 10

### Section 1 : Coding

1. Problem Statement

Ravi is developing a student registration system for a college. To efficiently store and manage the student IDs, he decides to implement a doubly linked list where each node represents a student's ID.

In this system, each student's ID is stored sequentially, and the system needs to display all registered student IDs in the order they were entered.

Implement a program that creates a doubly linked list, inserts student IDs, and displays them in the same order.

***Input Format***

The first line contains an integer N the number of student IDs.

The second line contains N space-separated integers representing the student IDs.

***Output Format***

The output should display the single line containing N space-separated integers representing the student IDs stored in the doubly linked list.

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: 5
10 20 30 40 50
Output: 10 20 30 40 50

***Answer***

```
#include<stdio.h>
#include<stdlib.h>

typedef struct node{
   struct node*prev;
   int data;
   struct node*next;
}node;
node*head,*tail=NULL;

void add(int data){
   node*nn=(node*)malloc(sizeof(node));
   nn->data=data;
   nn->next=NULL;
   if(head==NULL){
      head=nn;
      nn->prev=NULL;
   }
   else{
      node*temp=head;
      while(temp->next!=NULL){
         temp=temp->next;
      }
   temp->next=nn;
```

```
    nn->prev=temp;
    }
}

void display(){
    node*temp=head;
    while(temp!=NULL){
        printf("%d ",temp->data);
        temp=temp->next;
    }
}

int main(){
    int t,data;
    scanf("%d",&t);
    for(int i=0;i<t;i++){
        scanf("%d",&data);
        add(data);
    }
    display();
}
```

***Status :*** Correct ***Marks : 10/10***